Exploring the Extreme			
2005 Science			
Curriculum Standards			
South Carolina Science			
Grade K			
Activity/Lesson	**State**	**Standards**	
Finding the Center of Gravity Using Rulers	SC	SCI.K.K-1.3	Predict and explain information or events based on observation or previous experience.
Finding the Center of Gravity Using Rulers	SC	SCI.K.K-1.4	Compare objects by using nonstandard units of measurement.
Exploring the Extreme			
2005 Science			
Curriculum Standards			
South Carolina Science			
Grade 1			
Activity/Lesson	**State**	**Standards**	
Finding the Center of Gravity Using Rulers	SC	SCI.1.1-1.1	Compare, classify, and sequence objects by number, shape, texture, size, color, and motion, using standard English units of measurement where appropriate.
Finding the Center of Gravity Using Rulers	SC	SCI.1.1-1.3	Carry out simple scientific investigations when given clear directions.
Finding the Center of Gravity Using Rulers	SC	SCI.1.1-5.1	Identify the location of an object relative to another object.
Finding the Center of Gravity Using Rulers	SC	SCI.1.1-5.2	Explain the importance of pushing and pulling to the motion of an object.
Finding the Center of Gravity Using Rulers	SC	SCI.1.1-5.4	Illustrate ways in which objects can move in terms of direction and speed (including straight forward, back and forth, fast or slow, zigzag, and circular).
Exploring the Extreme			
2005 Science			
Curriculum Standards			
South Carolina Science			
Grade 2			
Activity/Lesson	**State**	**Standards**	
Finding the Center of Gravity Using Rulers	SC	SCI.2.2-1.1	Carry out simple scientific investigations to answer questions about familiar objects and events.
Exploring the Extreme			
2005 Science			
Curriculum Standards			
South Carolina Science			
Grade 3			

Activity/Lesson	State	Standards	
Finding the Center of Gravity Using Rulers	SC	SCI.3.3-1.3	Generate questions such as “what if?” or “how?” about objects, organisms, and events in the environment and use those questions to conduct a simple scientific investigation.
Finding the Center of Gravity Using Rulers	SC	SCI.3.3-1.4	Predict the outcome of a simple investigation and compare the result with the prediction.
Finding the Center of Gravity Using Rulers	SC	SCI.3.3-5.1	Identify the position of an object relative to a reference point by using position terms such as “above,” “below,” “inside of,” “underneath,” or “on top of” and a distance scale or measurement.
Finding the Center of Gravity Using Rulers	SC	SCI.3.3-5.2	Compare the motion of common objects in terms of speed and direction.
Finding the Center of Gravity Using Rulers	SC	SCI.3.3-5.3	Explain how the motion of an object is affected by the strength of a push or pull and the mass of the object.
Finding the Center of Gravity Using Rulers	SC	SCI.3.3-5.4	Explain the relationship between the motion of an object and the pull of gravity.
Finding the Center of Gravity Using Plumb Lines	SC	SCI.3.3-1.3	Generate questions such as “what if?” or “how?” about objects, organisms, and events in the environment and use those questions to conduct a simple scientific investigation.
Finding the Center of Gravity Using Plumb Lines	SC	SCI.3.3-1.4	Predict the outcome of a simple investigation and compare the result with the prediction.
Finding the Center of Gravity Using Plumb Lines	SC	SCI.3.3-5.1	Identify the position of an object relative to a reference point by using position terms such as “above,” “below,” “inside of,” “underneath,” or “on top of” and a distance scale or measurement.
Finding the Center of Gravity Using Plumb Lines	SC	SCI.3.3-5.2	Compare the motion of common objects in terms of speed and direction.
Changing the Center of Gravity Using Moment Arms	SC	SCI.3.3-1.3	Generate questions such as “what if?” or “how?” about objects, organisms, and events in the environment and use those questions to conduct a simple scientific investigation.
Changing the Center of Gravity Using Moment Arms	SC	SCI.3.3-1.4	Predict the outcome of a simple investigation and compare the result with the prediction.
Changing the Center of Gravity Using Moment Arms	SC	SCI.3.3-1.6	Infer meaning from data communicated in graphs, tables, and diagrams.

Changing the Center of Gravity Using Moment Arms	SC	SCI.3.3-5.1	Identify the position of an object relative to a reference point by using position terms such as “above,” “below,” “inside of,” “underneath,” or “on top of” and a distance scale or measurement.
Changing the Center of Gravity Using Moment Arms	SC	SCI.3.3-5.2	Compare the motion of common objects in terms of speed and direction.
Changing the Center of Gravity Using Moment Arms	SC	SCI.3.3-5.3	Explain how the motion of an object is affected by the strength of a push or pull and the mass of the object.
Changing the Center of Gravity Using Moment Arms	SC	SCI.3.3-5.4	Explain the relationship between the motion of an object and the pull of gravity.
Exploring the Extreme			
2005 Science			
Curriculum Standards			
South Carolina Science			
Grade 4			
Activity/Lesson	**State**	**Standards**	
Finding the Center of Gravity Using Rulers	SC	SCI.4.4-1.3	Summarize the characteristics of a simple scientific investigation that represent a fair test (including a question that identifies the problem, a prediction that indicates a possible outcome, a process that tests one manipulated variable at a time, and results that are communicated and explained).
Finding the Center of Gravity Using Rulers	SC	SCI.4.4-1.4	Distinguish among observations, predictions, and inferences.
Finding the Center of Gravity Using Plumb Lines	SC	SCI.4.4-1.3	Summarize the characteristics of a simple scientific investigation that represent a fair test (including a question that identifies the problem, a prediction that indicates a possible outcome, a process that tests one manipulated variable at a time, and results that are communicated and explained).
Finding the Center of Gravity Using Plumb Lines	SC	SCI.4.4-1.4	Distinguish among observations, predictions, and inferences.
Changing the Center of Gravity Using Moment Arms	SC	SCI.4.4-1.3	Summarize the characteristics of a simple scientific investigation that represent a fair test (including a question that identifies the problem, a prediction that indicates a possible outcome, a process that tests one manipulated variable at a time, and results that are communicated and explained).
Changing the Center of Gravity Using Moment Arms	SC	SCI.4.4-1.4	Distinguish among observations, predictions, and inferences.

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2005 Science			
Curriculum Standards			
South Carolina Science			
Grade 5			
Activity/Lesson	**State**	**Standards**	
Jet Propulsion	SC	SCI.5.5-1.1	Identify questions suitable for generating a hypothesis.
Jet Propulsion	SC	SCI.5.5-1.7	Use a simple technological design process to develop a solution or a product, communicating the design by using descriptions, models, and drawings.
Jet Propulsion	SC	SCI.5.5-5.2	Summarize the motion of an object in terms of position, direction, and speed.
Jet Propulsion	SC	SCI.5.5-5.3	Explain how unbalanced forces affect the rate and direction of motion in objects.
Vectoring	SC	SCI.5.5-1.2	Identify independent (manipulated), dependent (responding), and controlled variables in an experiment.
Vectoring	SC	SCI.5.5-1.3	Plan and conduct controlled scientific investigations, manipulating one variable at a time.
Vectoring	SC	SCI.5.5-1.6	Evaluate results of an investigation to formulate a valid conclusion based on evidence and communicate the findings of the evaluation in oral or written form.
Vectoring	SC	SCI.5.5-1.7	Use a simple technological design process to develop a solution or a product, communicating the design by using descriptions, models, and drawings.
Vectoring	SC	SCI.5.5-5.2	Summarize the motion of an object in terms of position, direction, and speed.
Center of Gravity, Pitch, Yaw	SC	SCI.5.5-5.2	Summarize the motion of an object in terms of position, direction, and speed.
Center of Gravity, Pitch, Yaw	SC	SCI.5.5-5.3	Explain how unbalanced forces affect the rate and direction of motion in objects.
Exploring the Extreme			
2005 Science			
Curriculum Standards			
South Carolina Science			
Grade 6			
Activity/Lesson	**State**	**Standards**	
Vectoring	SC	SCI.6.6-1.4	Use a technological design process to plan and produce a solution to a problem or a product (including identifying a problem, designing a solution or a product, implementing the design, and evaluating the solution or the product).

Center of Gravity, Pitch, Yaw	SC	SCI.6.6-1.4	Use a technological design process to plan and produce a solution to a problem or a product (including identifying a problem, designing a solution or a product, implementing the design, and evaluating the solution or the product).
Exploring the Extreme			
2005 Science			
Curriculum Standards			
South Carolina Science			
Grade 7			
Activity/Lesson	**State**	**Standards**	
Jet Propulsion	SC	SCI.7.7-1.2	Generate questions that can be answered through scientific investigation.
Jet Propulsion	SC	SCI.7.7-1.3	Explain the reasons for testing one independent variable at a time in a controlled scientific investigation.
Vectoring	SC	SCI.7.7-1.3	Explain the reasons for testing one independent variable at a time in a controlled scientific investigation.
Vectoring	SC	SCI.7.7-1.6	Critique a conclusion drawn from a scientific investigation.
Fuel Efficiency	SC	SCI.7.7-1.5	Explain the relationships between independent and dependent variables in a controlled scientific investigation through the use of appropriate graphs, tables, and charts.
Exploring the Extreme			
2005 Science			
Curriculum Standards			
South Carolina Science			
Grade 8			
Activity/Lesson	**State**	**Standards**	
Vectoring	SC	SCI.8.8-1.3	Construct explanations and conclusions from interpretations of data obtained during a controlled scientific investigation.
Vectoring	SC	SCI.8.8-5.4	Predict how varying the amount of force or mass will affect the motion of an object.
Center of Gravity, Pitch, Yaw	SC	SCI.8.8-5.5	Analyze the resulting effect of balanced and unbalanced forces on an object's motion in terms of magnitude and direction.
Fuel Efficiency	SC	SCI.8.8-5.1	Use measurement and time-distance graphs to represent the motion of an object in terms of its position, direction, or speed.